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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,473	09/21/2004	Hsi-Ming Chang	13530-US-PA	5472
31561	7590	01/05/2007	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE			ERDEM, FAZLI	
7 FLOOR-1, NO. 100			ART UNIT	
ROOSEVELT ROAD, SECTION 2			PAPER NUMBER	
TAIPEI, 100			2826	
TAIWAN				
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	01/05/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/711,473	CHANG, HSI-MING
	Examiner Fazli Erdem	Art Unit 2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 October 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-19 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.<br><br>                                                 | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-19 rejected under 35 U.S.C. 102(e) as being anticipated by Takeashi et al. (6,624,473).

Regarding Claim 1, Takehashi et al. disclose a thin-film transistor, panel and methods for producing the same where in Fig. 3, 10B, 21 and in claim 1 it is disclosed a substrate 10, a polysilicon layer 1 disposed over the substrate, polysilicon layer comprising source and drain regions 150/160 and lightly doped source/drain regions 152/262 between the channel region 170 and the source/drain region, a gate insulation layer 2 disposed over the substrate covering the channel region and the lightly doped drain region, a gate buffer layer 42 disposed over the gate insulation layer covering the channel layer and the lightly doped region, a gate 41 disposed over the gate buffer layer, wherein the gate buffer layer 42 is disposed between the gate 41 and the gate insulation layer 2, a dielectric layer 3 arranged over the gate, a source/drain metal layers 5/6, disposed over the dielectric layer 3, and connected to the source/drain regions 150/160.

Regarding Claim 2, in claim 1 of Takehashi et al. the gate layer is disclosed to be metal.

Regarding Claim 3, in claim 1 of Takehashi et al. the gate buffer layer below the gate layer is disclosed to be a metallic compound, i.e. a metal silicide.

Regarding Claim 4, in Fig. 23, sides of the lower gate electrode, i.e. gate buffer layer could be anodized, i.e. a metal oxide.

Regarding Claims 5 and 7, as Figs 10b and 19 suggest, gate buffer layer, i.e. lower electrode has a lower metal content near the gate insulation film 2.

Regarding Claim 6 and 8, as Figs. 10b and 19 suggest, gate buffer layer, i.e. lower gate electrode has a dopant containing material.

Regarding Claims 9 and 10, Fig. 3 disclose the ladder and tapered shaped buffer layer.

Regarding Claim 11, buffer layer 12 is arranged between the substrate and the polysilicon layer.

Regarding Claims 12, 13 and 18, manufacturing steps are disclosed in Fig. 19, 23, 24 and 29.

Regarding Claim 14, in Fig. 4 and 5, sputtering method was used.

Regarding Claim 15 and 16, column 8, lines 1-10 the required gas type is disclosed.

Regarding Claim 19, in Fig. 21, the gate buffer layer, i.e. lower gate electrode layer 42, is disposed over the lightly doped regions but not the source/drain regions.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (571) 272-1914. The examiner can normally be reached on M - F 8:00 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FE

December 17, 2006

  
**EVAN PERT**  
**PRIMARY EXAMINER**